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OFFICE OF PUBLIC HEALTH • Center for Health Policy, Information & Promotion

Bioterrorism for the Public

FAQ's - Pneumonic Plague

Facts about Pneumonic Plague

Plague is an infectious disease that affects animals and humans. It is caused by the bacterium *Yersinia pestis*. This bacterium is found in rodents and their fleas and occurs in many areas of the world, including the United States.

Y. pestis is easily destroyed by sunlight and drying. Even so, when released into air, the bacterium will survive for up to one hour, although this could vary depending on conditions.

Pneumonic plague is one of several forms of plague. Depending on circumstances, these forms may occur separately or in combination:

- **Pneumonic plague** occurs when *Y. pestis* infects the lungs. This type of plague can spread from person to person through the air. Transmission can take place if someone breathes in aerosolized bacteria, which could happen in a bioterrorist attack. Pneumonic plague is also spread by breathing in *Y. pestis* suspended in respiratory droplets from a person (or animal) with pneumonic plague. Becoming infected in this way usually requires direct and close contact with the ill person or animal. Pneumonic plague may also occur if a person with bubonic or septicemic plague is untreated and the bacteria spread to the lungs.
- **Bubonic plague** is the most common form of plague. This occurs when an infected flea bites a person or when materials contaminated with *Y. pestis* enter through a break in a person's skin. Patients develop swollen, tender lymph glands (called buboes) and fever, headache, chills, and weakness. Bubonic plague does not spread from person to person.
- **Septicemic plague** occurs when plague bacteria multiply in the blood. It can be a complication of pneumonic or bubonic plague or it can occur by itself. When it occurs alone, it is caused in the same ways as bubonic plague; however, buboes do not develop. Patients have fever, chills, prostration, abdominal pain, shock, and bleeding into skin and other organs. Septicemic plague does not spread from person to person.

Symptoms and Treatment

With pneumonic plague, the first signs of illness are fever, headache, weakness, and rapidly developing pneumonia with shortness of breath, chest pain, cough, and sometimes bloody or watery sputum. The pneumonia progresses for 2 to 4 days and may cause respiratory failure and shock. Without early treatment, patients may die.

Early treatment of pneumonic plague is essential. To reduce the chance of death, antibiotics must be given within 24 hours of first symptoms. Streptomycin, gentamicin, the tetracyclines, and chloramphenicol are all effective against pneumonic plague.

Antibiotic treatment for 7 days will protect people who have had direct, close contact with infected patients. Wearing a close-fitting surgical mask also protects against infection.

A plague vaccine is not currently available for use in the United States.

Links

- [Basic Q&A on Pneumonic Plague](http://www.cdc.gov/ncidod/dvbid/plague/qa.htm)
<http://www.cdc.gov/ncidod/dvbid/plague/qa.htm>
- [Plague Information](http://www.cdc.gov/ncidod/dvbid/plague/index.htm)
<http://www.cdc.gov/ncidod/dvbid/plague/index.htm>
- [Plague](http://www.hopkins-biodefense.org/pages/agents/agentplague.html)
<http://www.hopkins-biodefense.org/pages/agents/agentplague.html>
- [Frequently Asked Questions \(FAQ\) About Plague](http://www.bt.cdc.gov/agent/plague/faq.asp)
<http://www.bt.cdc.gov/agent/plague/faq.asp>